Remarks/Arguments

Reconsideration of this application is requested.

Claim Status

Claims 1-29 were presented. Claims 10, 13-17, 20 and 26 are amended, and claims 1-9, 21-25, 28 and 29 are canceled without prejudice. Claims 10-20, 26 and 27 are now pending.

Allowable Subject Matter

Claim 20 is indicated as allowable if rewritten in independent form. Claim 20 depends from base claim 1 via intervening claims 5 and 17-19. Accordingly, claim 20 is rewritten in independent form to include all limitations of base claim 1 and intervening claims 5 and 17-19, and is now in condition for allowance.

Claim Rejections – 35 USC 102 and 103

Claims 1-9, 13, 15, 17-19, 21-25, 28 and 29 are rejected under 35 USC 102(b) as anticipated by Doyle (US 5,602,664). Claims 10-12, 14 and 16 are rejected under 35 USC 103(a) as obvious over Doyle in view of Koinuma (US 5,301,355). Claims 26 and 27 are rejected as obvious over Doyle.

In response, the rejections are respectfully traversed with respect to claims 10-19, 26 and 27. In this regard, claims 10, 13-17, 20 and 26 are rewritten in independent form. Claims 1-9, 21-25, 28 and 29 are canceled, without prejudice, rendering their grounds for rejection moot.

Claim 10 relates to the embodiment of the invention shown in applicant's Fig. 3 in which first and second receiver modules 130 and 132 are present. The output signal generated by the controller unit 90 comprises at least one of a remote control signal having a first carrier frequency and a remote control signal having a second carrier frequency. The Action asserts that Doyle discloses the claimed subject matter except for an output signal generated by the controller unit which comprises at least one of a remote control signal having a first carrier frequency and a remote control signal having a second carrier frequency. However, the Action asserts that

Koinuma, which discloses an IR repeater whose modulated output signal is related to the frequency of the carrier of the modulated signal, provides such teaching.

Doyle is almost exclusively focused on an IR repeater having a single IR detector as illustrated, for example, in Fig. 1. Only at the very end of Doyle is reference made to Fig. 4 which shows an IR repeater having a first IR detector 204 and a second IR detector 206. The detectors 204 and 206 are said to be tuned to different modulating center frequencies. Beyond that, there is no discussion of Fig. 4. Consequently, there is no basis for applying the altered carrier frequency in Koinuma to Doyle, and claim 10, which is amended into independent form, therefore distinguishes over the attempted combination of Doyle and Koinuma.

The same rationale applies to the rejection of claim 11 over Doyle and Koinuma. Claim 11 further defines claim 10 in terms of the output signal being based on the remote control signal having the first carrier frequency and the remote control signal having the second carrier frequency. Again, the modulated output signal of Koinuma which is related to the frequency of the carrier of the modulated input signal would not be enough to teach or suggest to one skilled in the art that the output signal be based on the first and second carrier frequencies as defined in claim 11. Therefore, claim 11, which depends from claim 10, distinguishes over the attempted combination of Doyle and Koinuma.

The same rationale applies to claim 12 which further defines claim 11 in terms of the output signal comprising the result of a logical OR operation performed on the remote control signal having the first carrier frequency and the remote control signal having the second carrier frequency. The gate 30 in Fig. 1 of Doyle is not disclosed in connection with the two IR detector embodiment of Fig. 4 and therefore cannot comprise a "logical OR". Consequently, claim 12, which depends from claim 11, distinguishes patentably over the attempted combination of Doyle and Koinuma.

Claim 13, which is rejected as anticipated by Doyle, defines the at least one receiver module as comprising a wideband receiver module adapted to generate the

signal based on the infrared signal, thereby corresponding to the embodiment of Fig. 8. The disclosure in Doyle that the receiver section is tuned to respond to a modulating signal center frequency in the middle of a range of frequencies used by respective manufacturers does not mean that the receiver module comprises a wideband receiver module. This simply means that the receiver section is chosen to have a band which encompasses the most common frequencies used by a group of manufacturers. As described at the bottom of page 25 of the Specification of the present Application, the wideband receiver module of Fig. 8 covers a very large range of frequencies such as 24 kHz to 100 kHz. Therefore, claim 13, which is rewritten in independent form, is neither disclosed nor suggested by Doyle.

Similarly, claim 14 defines the at least one receiver module thereof as comprising a narrowband receiver module. The attempted combination of Koinuma with Doyle does not result in either a narrowband signal receiver or a wideband signal receiver. Therefore, claim 14, which is rewritten in independent form, clearly distinguishes over the attempted combination of Koinuma and Doyle.

Claim 15, which is rewritten in independent form, defines a repeater unit having first and second receiver modules which both comprise wideband receiver modules. As previously noted, Doyle does not disclose or suggest a single wideband receiver module, let alone two wideband receiver modules.

The same rationale applies to claim 16, which is rewritten in independent form and defines a repeater unit in which first and second receiver modules each comprise a narrowband receiver module. As previously noted, Doyle does not disclose or suggest a single narrowband receiver module, let alone two such modules in a repeater unit.

Claim 17, which is rewritten in independent form, defines a repeater unit having first and second receiver modules generating first and second signals in which the controller unit generates a signal that corresponds to one of the remote control signals, adding either a fixed carrier frequency or a multifrequency signal to

either the first signal or the second signal. In Doyle, a fixed carrier frequency can be added to one signal but not first and second signals as called for in the claim.

Similarly, with respect to claim 18, which depends from and further defines claim 17 in terms of measuring the pulse width of the first signal, Doyle does not disclose or suggest measurement of pulse width duration in connection with the one embodiment thereof shown in Fig. 4 in which there are two receiver modules.

A similar rationale applies to claim 19, which further defines claim 18 in terms of measuring pulse width of the second signal as well as the first signal. Therefore, claim 19, which depends from claim 18, clearly distinguishes over Doyle.

Claim 26, which is rewritten in independent form, adds a third receiver module tuned to a third carrier frequency and generating a third signal based on a received infrared input signal. Claim 27 specifies the third carrier frequency as centered at about 455 kHz. Rejection of these claims is based on the argument that although Doyle does not specifically disclose a third receiver module tuned to a third carrier frequency, such limitation is merely a matter of design choice. However, Doyle merely discloses a second receiver module in Fig. 4 thereof without much discussion, and there is insufficient information contained therein so that one skilled in the art could arrive at a third receiver module within a repeater unit. Claims 26 and 27 are therefore submitted to clearly distinguish over Doyle.

Conclusion

This application is now in condition for allowance. The Examiner is invited to telephone the undersigned to resolve any issues that remain after consideration and entry of this amendment. Any fees due with this response may be charged to our Deposit Account No. 50-1314.

Respectfully submitted,
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